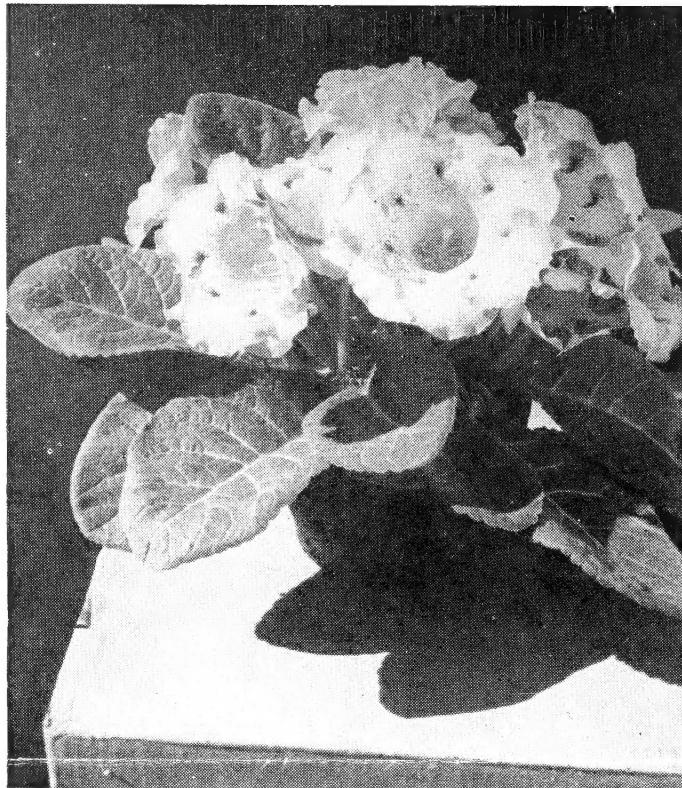


## **Historic, Archive Document**

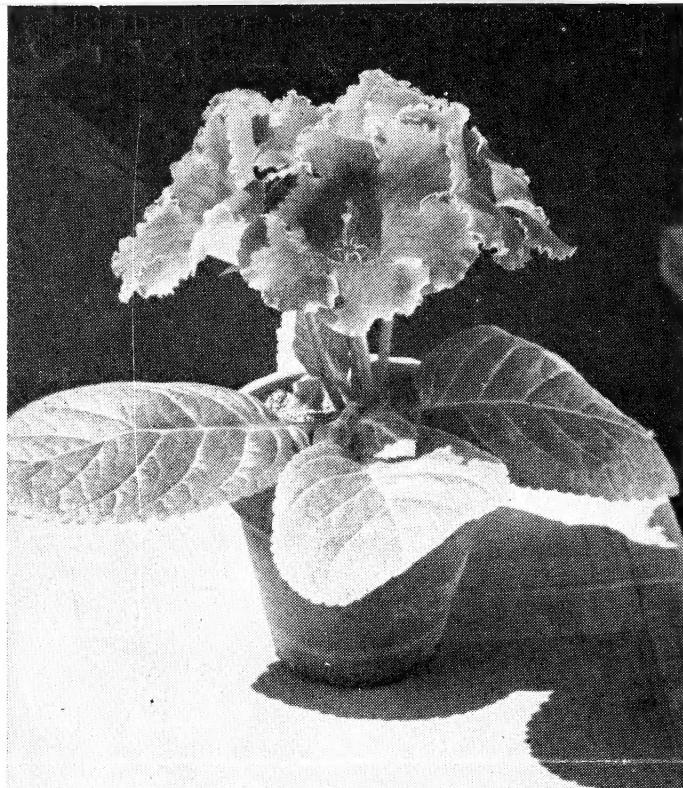
Do not assume content reflects current scientific knowledge, policies, or practices.







This is a finely speckled hybrid that looks as though a mist of paint touched it. All photos are of the author's plants.



The seedling hybrid, *above*, is a ruffled red with blooms about five inches across. The same type is also found in purple.

## For real houseplant beauty . . .

# Grow Gloxinias!

By ALBERT H. BUELL, (Conn.)

*Paul F. Frese photos*

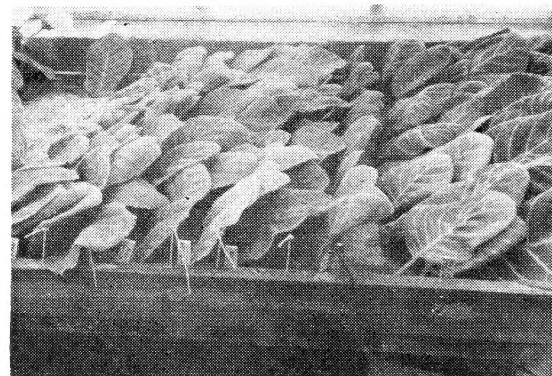
GLOXINIAS, to my mind, are the most strikingly attractive and most nearly perfect of all houseplants. In fact, by comparison with them, many popular houseplants seem hardly worth growing at all! For color, size and number of their flowers, they have few if any rivals, and for overall appearance of the plant they stand second to none. They are easily grown by any houseplant enthusiast, and yet growing them well requires sufficient skill to take them out of the sansevieria class and also affords the gratification of accomplishment.

Gloxinias may be grown from young potted plants, from mature tubers, or from seed. Stocks may also be propagated by leaf cuttings. Large tubers planted in November will produce specimen flowering plants the following spring. I have had as many as 74 flowers open at the same time on one of my slipper type varieties. I also had one outstanding plant that was continuously in flower for 14 weeks. For four weeks there were over eight blooms on it, and

at the peak period there were 18 blooms open at the same time. This plant had flowers measuring from 4 to 5 inches in diameter.

The soil in which gloxinias are planted should be coarse, fibrous and rich in organic matter, that is, manure, leaf-mold or compost. I have done considerable experimenting with soil mixtures and believe I have developed a mixture that is almost perfectly suited to gloxinia culture. However, it would be difficult for most people to duplicate this mixture, unless they have access to a farm. I make a compost pile of cornstocks, leaves, bull manure, and sod. I cannot say what the proportions are, as no two piles are exactly the same. The essential thing, though, is that the mixture be rich and fibrous.

About an inch of charcoal in the bottom of the pots makes ideal drainage material. For tubers under 1½ inches in diameter, 5-inch pots are the right size. Larger tubers, however, need larger pots. Gloxinias do not like the tempera-



Gloxinia leaves are rooted in damp sand with two inches of stem below surface. Strings across bench support the leaves.

• • •

ture to drop below 60° at night, and a 62° night temperature seems to suit them perfectly. Contrary to the advice of some gloxinia authorities, I always water my plants at the surface of the soil. I apply water until it runs out the bottom of the pot and do not water again until the soil at the surface begins to show signs of dryness. In this way, the soil never becomes waterlogged, a condition which is often the cause of bud-blasting.

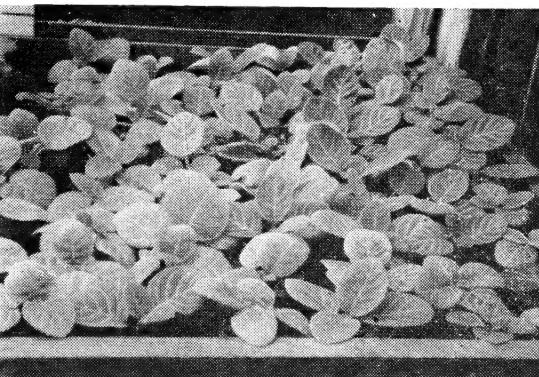
During the winter, gloxinias require just about all the light that can be given them. This is especially true of some varieties that have a tendency to grow leggy. During the summer they require some shade, especially if grown in a greenhouse. I try to hit the "happy medium"—enough light so that the

plants will not become leggy and enough shade so that they will have good color.

The plants should be kept growing actively until about August. At that time water should be gradually withheld until the tops begin to look unsightly. The plants are then ready to be placed in the cellar for their rest period, which ordinarily should last from six to ten weeks. If new growth starts sooner, they should be watered and kept growing, as this is a sign that a new growth cycle has begun, and to check it would only weaken the tuber.

When gloxinias are raised from seed, the first consideration is that the seed should be fresh. Gloxinia seed is small and shows a marked decrease in viability after it is one year old. Therefore, be sure the seed is obtained from a reliable source and that the age of the seed is stated. The second point of major consideration is that the seed must not be allowed to become dry after it has been sown, especially from the fifth to the ninth days. Thirdly, the soil must be loose.

The sowing medium which I have found most satisfactory consists of equal



Here seedling plants are growing in 2 1/2" pots where they stay for 6 to 8 weeks before they are moved into larger pots.

• • •

parts of peatmoss (or sphagnum moss), sand and leafmold soil. The peat or sphagnum moss should be screened through a quarter-inch screen and the soil should be sterilized. After sterilizing, the soil should be allowed to cool and then placed in a container at least 3 inches deep so as not to dry out too rapidly.

After the moss, sand and leafmold soil have been thoroughly mixed together, the mixture is placed in a seed flat or seed pan with drainage material at the bottom. The surface, after leveling, should then be covered with a 1/8-inch layer of finely sifted sphagnum moss. The seed is sown onto this layer of moss.

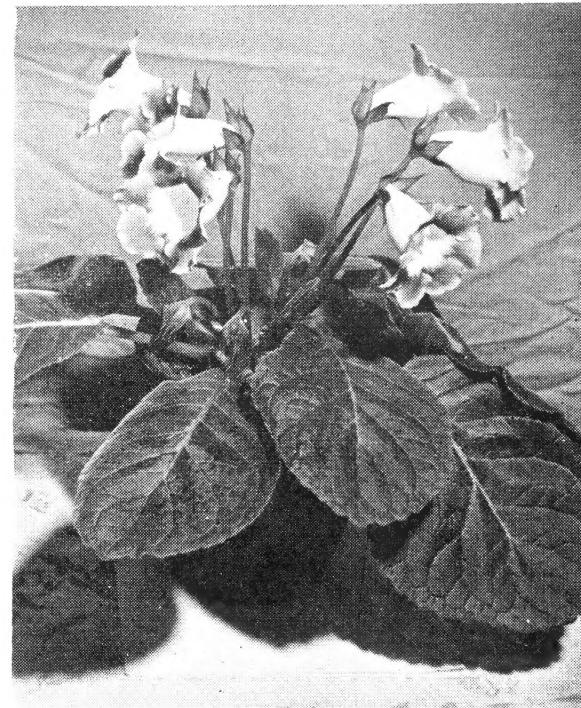
A convenient method of sprinkling the seed onto the sowing medium is to first

place the seed on a small pane of glass and then, holding the glass on a slant, to tap the glass lightly with a pencil, so that the seed will roll off the edge gradually and can thus be sown quite evenly. After sowing, I water the seed into the moss, but I do not press it down. The final step is to cover the container with a pane of glass and a piece of newspaper. A small chip should be placed under one edge of the glass, so as to prevent excess condensation, and the container placed in a warm location.

Seed should be sown July 1 and the plants grown through the winter in order to produce the largest plants. At a 62° night temperature they will begin flowering in April or May and will continue to bloom during most of the summer if kept watered and the weather is moderately cool. A protected porch seems to be an ideal location.

I sow seed from July 1 to August 1 for early blooming plants. After August 1, I wait for the new seed, which is harvested in September. After new seed becomes available, I continue to sow until March 1. I do not sow any gloxinia seed during March, April and May, because the plants would then mature very rapidly, before attaining a good size. This would be especially true if they were grown in a greenhouse. Some enthusiasts, however, prefer to sow during April and May, since by this method the plants do not take up so much space—they can be grown in 4-inch instead of 5-inch pots—and when the plants bloom the choicer ones can be picked out and the others discarded. In this way a fine collection can be had at a reasonable price.

I transplant the seedlings as soon as they are large enough to handle, that is, when they measure approximately 3/8 inch across the true leaves. I plant the seedlings in a greenhouse bench, containing the same soil as I use for potting, spacing them 1 1/2 inches apart each way. They could, of course, be planted into a

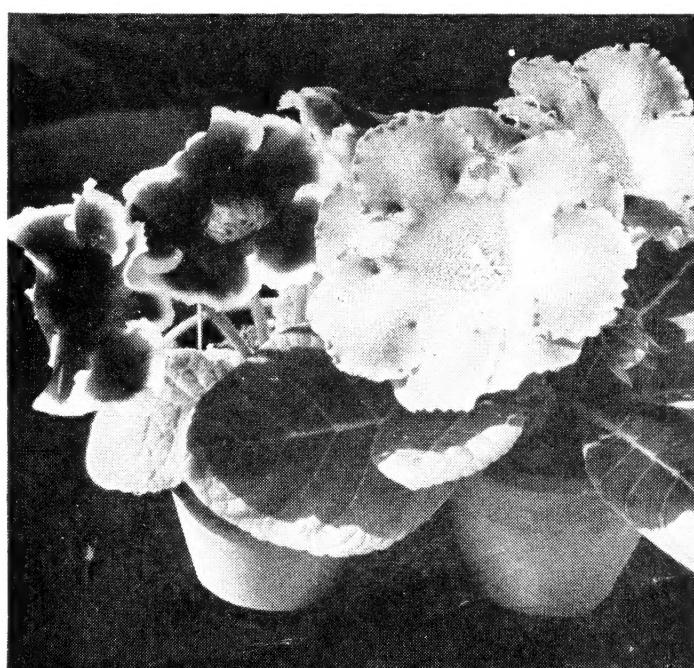


The slipper type of gloxinia resembles a foxglove but its flowers are much larger. Some of these bloom as long as 14 weeks.

• • •

seed flat or coldframe bed instead of the greenhouse bench.

As soon as the seedlings begin to crowd each other—usually within about a month—they are potted up into 2 1/2-inch pots. They remain in these pots for six to eight weeks. From 2 1/2-inch pots I recommend a shift into 5-inch pots. I know this would not usually be considered horticulturally correct, but there are two very good reasons for it. In the first place, a vigorously growing gloxinia in a 3 1/2- or 4-inch pot is likely to dry out quite fast, and if it is subjected to too much dryness it will mature and set flowers before it has attained a good size. In the second place, many people neglect to repot their plants after they are in



Note difference in the size of the Buell hybrid gloxinia, right, and the usual named variety, left.

## Grow Gloxinias

3½'s or 4's, and these size pots cannot possibly support full-grown gloxinias without frequent but careful feedings, which is a source of trouble among many amateur growers. The shift from 2½- to 5-inch pots is therefore a thoroughly sound practice.

After the July-sown plants have flowered during the following spring and summer, and by the time they go into their resting stage, or around October, the tubers should be from 2 to 3 inches in diameter. These tubers, planted in November, produce the largest specimen plants I have ever grown or seen.

The most popular method of propagating gloxinias is by leaf cuttings. This can be done in several different ways. Most amateurs root the leaves in water, but I would not recommend this practice. I suggest one of two methods, depending on whether one wants several small plants or one large tuber to plant at a later date. If several small plants are wanted, place the leaf on damp sand in a terrarium or goldfish bowl, break the ribs of the leaf in several places, and cover the bowl until the little plants begin to develop. These should begin to form at the breaks in the ribs within a few weeks.

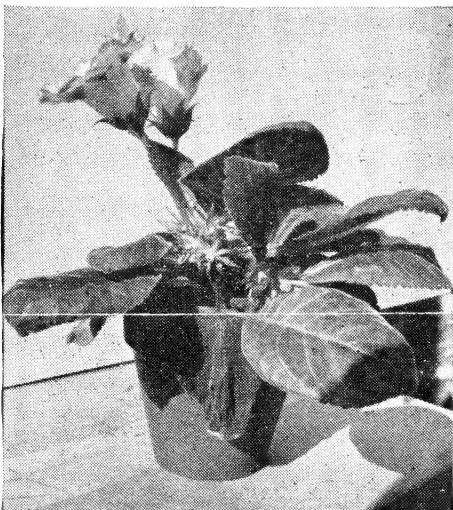
If a large tuber is desired, use the same container and insert only about 2 inches of the stem in the sand. Keep the bowl covered until the leaf has become established in the sand. The rooted leaf should be kept in the sand as long as possible. When the leaf turns yellow and dies, the tuber that has formed is ready for potting. The size of pot to be used will depend on the size of the tuber. Leaves rooted around June 1 should have tubers over 1½ inches across by November, which could be planted directly into 5-inch pots. The sand should be kept moist right up until the time the leaf dies and the tuber is ready for potting, because if it should dry out the tuber would ripen and sprout before it had reached its peak size.

For either method of leaf propagation, the leaves should be taken while they are still in good, green condition—that is, while the plant is still in bloom.

If one wishes to acquire plants of a definite flower color, it is necessary either to propagate them from mature plants or else to purchase mature tubers. The size of the tuber has a direct bearing on the number of blooms it will produce, although small tubers started in November and grown at a 62° temperature will produce better plants than those started from larger tubers in February or March. This is because there is a decided deterioration in the vitality of

tubers after the first of February.

I started my collection of gloxinias just before the war. I decided to try my hand at cross-pollinating some of the better varieties that I had, because I had found it impossible to purchase tubers.



Black leaves are sometimes caused by handling wilted plants in hot sunshine.

Fortunately, when I started, I had one really outstanding strain among the several that I had on trial. I now have over 50 distinctly different gloxinias as a result of selective crossing and re-crossing. Some of these, of course, are the named varieties which have always been popular, even though the blossoms of some are comparatively small. Besides the large, open-flowered kinds, they include also the slipper type. The flowers are like oversize foxgloves.

Almost all of our large-flowered hybrids have flowers over 5 inches in diameter. Many of these are ruffled. Some are in solid colors, ranging from shades of pink through deep red and from delicate shades of lavender through purple. Others are so finely speckled that it would appear that a mist of paint had touched them. Still others are of solid color with a speckled border of larger spots. Some are mottled and veined in various colors on a white background.

In my breeding work, I do not try to produce gloxinias that come true to color from seed by pollinating flowers on the same plant. This practice results in a decided weakness both in the germination of the seed and also in resistance to disease such as leafspot. My aim is to have an excellent assortment of colors on plants that are easy to grow.

I have crossed a blue slipper type with a large speckled hybrid. The results included two dark slippers, several red or

rose slippers, and a considerable number of plants with little upright flowers of no particular value. The following year I had a red-speckled slipper and a purple-speckled slipper. These, as far as I know, are the only speckled slipper type gloxinias ever produced.

Among insect pests, thrips are the only ones that are likely to give gloxinia enthusiasts trouble at one time or another. The first sign of their presence is a rusty appearance of the leaves, especially underneath, and also of the stems. To keep thrips under control it used to be necessary to spray regularly with nicotine sulphate. Since DDT became available, however, their control has been much easier. By the use of DDT every six or eight weeks I think that trouble from thrips is a thing of the past. DDT should be used with precaution, and as directed by the manufacturer.

Aphids can cause considerable damage, but they are easily controlled. Nicotine sulphate is the most effective spray for all types of aphids. Mealybugs will sometimes attack gloxinias, but they prefer other plants. I have never been troubled with cyclamen mites, but I have been told that they can be a stubborn pest. However, the new parathion sprays are reported to afford positive control.

There is some confusion regarding spots on gloxinia leaves and also regarding leaves suddenly dying. There are various causes of these troubles, some of which are not understood. Some strains are very susceptible to having their leaves turn black for no apparent reason, and plants whose buds blast easily are also apt to be weak in this respect. Handling somewhat wilted plants when the sun is hot will often cause them to turn black. Cold water splashed on the leaves of a plant in a warm, sunny window can cause the same damage. After the plants recover, the leaves have burned-looking spots on them. Sometimes it is merely the surface of the leaf that has had the tissues broken by a sudden change of temperature, but often times the injury penetrates the whole thickness of the leaf. This kind of spot never spreads, and quite often the color will return to leaves that have suffered only slight surface injury.

Another kind of leafspot is entirely different, since it is caused by a disease and therefore spreads, especially in cloudy weather when the humidity is high. Water on the leaves will also spread the spores of the disease from one leaf to the next. The only preventive measure I have found for this leafspot is to supply sufficient ventilation so that moisture does not form on the leaves. Also, any leaves that appear to be in a decaying condition, especially if they appear to have mold on them, should be removed and burned.